implementations of the invention can be made without departing from the spirit or

scope of the invention. Although the configuration system (and corresponding method)

has been specifically described in connection with the configuration of a window/door

product, it should be apparent that the system (and method) can be applied to any

product, service, or component that is to be designed or configured such as cabinets,

rooms, houses, cars, landscape designs, clothing, etc.

**IN THE CLAIMS:**

Please cancel claim 20 without prejudice or disclaimer.

Please add new claims 21-30 as follows:

--(NEW) 21. A method of configuring a product, the method comprising the

steps of:

representing product knowledge in a hierarchical structure, wherein said

representing step includes storing product category information in frames in the form

of nodes of the hierarchical structure and storing product features and options in slots

for respective nodes of the structure;

outputting a set of product-specific questions;

receiving individual answers to respective ones of the set of product-specific

questions;

removing at least one product-specific question from the output set of

product-specific questions, prior to receiving an answer to the at least one product-

specific question, in response to answers received in said receiving step;

performing frame-based inferences of the product knowledge stored in the

hierarchical structure based on answers received in said receiving step; and

configuring a product with features and options based on inferences made in

said performing step.

(NEW) 22. The method of configuring as recited in claim 21, wherein said

representing step comprises the step of representing the hierarchical structure in the

form of a tree, wherein frames of the tree maintain parent-child relationships in which a

child frame inherits all of the features and options of a parent frame.

(NEW) 23. The method of configuring as recited in claim 22, wherein said

configuring step further comprises the step of filtering inferences made in said

performing step by executing a set of rules on the inferences made so as to produce a

product configuration, wherein the product configuration is in the form of a window

product.

(NEW) 24. The method of configuring as recited in claim 21, wherein said

removing step comprises the step of removing a given product-specific question in

response to invalidation of a slot in a frame corresponding to the given product-specific question.

(NEW)  25.  A machine-readable recording medium for use in configuring a product assembly, the recording medium having stored therein a series of machine-executable program instructions executed by a machine to perform the steps of:

requesting a product type;

prompting a set of product-specific questions selected based on product type requested;

providing answers to product-specific questions as prompted;

configuring the assembly using frame-based inferences of a product knowledge base in response to answers provided;

displaying line drawings of the assembly as configured, wherein the line drawing graphically depicts a type, size and style of the assembly as configured; and

quoting a price for the assembly as configured and displayed.

(NEW)  26.  The machine-readable recording medium as recited in claim 25, wherein said displaying step further comprises the steps of:

displaying composite units of the assembly as configured; and

allowing custom configuration of the assembly as configured by allowing addition and modification of composite units to the assembly as configured.

(NEW) 27. The machine-readable recording medium as recited in claim 26, wherein the series of machine-executable program instructions further comprises the step of building a product knowledge base by storing product information related to window and door products in a hierarchical tree, wherein the hierarchical tree is composed of frames corresponding to different products and slots within each frame corresponding to attributes of the different products.

(NEW) 28. A product configuration system for configuring products based on user interaction, the system comprising:

a user interface, wherein said user interface receives answers from the user corresponding to questions output to the user in the form of a display of graphical and textual representations;

a graphics formatting and output subsystem, wherein said graphics formatting and output subsystem performs calculations and preparations for the display of graphical and textual representations to said user interface;

a data storage subsystem, wherein said data storage subsystem is a repository of product information representing knowledge of products including type, style and size;

a configurator subsystem, wherein said configurator subsystem builds product configurations based on data from said data storage subsystem and established data relationships, wherein said configurator includes a core module for facilitating

input and output data in the system, and a frame engine for computing available

configuration answers for any configuration questions posed to the user at any time,

wherein the frame engine is a frame-based expert system, the frame engine receiving

values of answers received by said user interface and performing frame-based

inferences of the values of answers to other questions automatically, and generating

configuration data representing configuration of a desired product based on the

inferences made; and

a data analysis subsystem, wherein said data analysis subsystem accesses

and processes data from said data storage subsystem, and wherein said data analysis

subsystem includes a pricing engine that uses the configuration data generated by the

frame engine to generate pricing for the desired product.

(NEW)  29.  The product configuration system of claim 28, the system further

comprising a schematic configurator that displays on said user interface drawings

representing the desired product as configured by said configurator subsystem, and

allows manipulation and graphical editing of the desired product configuration,

wherein the desired product configured is a door assembly.

(NEW)  30.  The product configuration system of claim 28, the system further

comprising a product code engine for both generating and receiving as inputs codes

associated with component parts included in the product information stored in said